

REMARKS

The examiner maintained the rejections of Claims 1-2 and 13-15 under 35 U.S.C. 102(b) as being anticipated by Choy et al., PCT Publication No. WO00/59581; claims 4-8, 12, 16, 17 and 21 under 35 U.S.C. 103(a) as obvious over Choy et al. in view of Abbasi, US Patent No. 6,786,863; and Claims 9-11 and 18-20 under 35 U.S.C. 103(a) as obvious over Choy et al. in view of Abbasi as applied to claims 5 and 16 above, and further in view of Yee et al., US Patent No. 6,016,385.

Applicant will address the examiner's rejections and in particular the examiner's response to Applicant's argument. The examiner stated, in response to Applicant's argument that Choy does not teach a body suit, merely gloves, the examiner stated:

The Examiner respectfully disagrees. Based on the broadest reasonable interpretation of the term "body suit", Choy anticipates the claimed language in the description including, among other examples, a data glove worn by the user to provide and simulate tactile interaction (page 10, lines 5-23), and further using a data glove and similar device in order to track motion of the user's body, including a multiplicity of sensors detecting motion of different parts of the body.

Applicant contends that this reasoning does not address the claimed feature and moreover is in error. Claim 1 calls for the feature of: "a body suit having tactile actuators, the actuators receiving the tactile signals from the communications network." The examiner rejected this claim as anticipated, not as obvious. Therefore, the examiner must find in Choy the teaching of a body suit having tactile actuators. Moreover, the examiner must find that the actuators receive signals from the communication network. Choy's glove sends signals to the communication network.

Choy does not inherently teach the body suit, as claimed. Specifically, Choy teaches:

For example, the sensing device could be in the form of a digital glove type device which fits over the hand or the back of the hand of the user and from an initial position tracks movement and causes visual images and corresponding sounds to be selected from the database in a corresponding manner.

In Choy, the glove is used to control the system, e.g., sends signals to a virtual reality processor, Choy does not describe to receive signals from the network. Choy never describes an embodiment in which “a body suit having tactile actuators, the actuators receiving the tactile signals from the communications network.”

The examiner also responds that:

Applicant contends the applied reference Choy does not describe a humanoid robot having tactile sensors along the exterior that send tactile sensors to the network. The Examiner respectfully disagrees and refers the Applicant to page 12, lines 28-34, which further describes the doll being required to send tactile signals received of where/pressure it is being touched to the PC/network.

Apparently this response is directed to Applicant's argument regarding claim 2.¹ If this is incorrect, Applicant requests clarification. What the examiner argues is found in Choy, however is not what Applicant claims in claim 2. Choy does not describe: “motion sensors positioned throughout the body suit,” Choy does not describe a body suit. Choy also does not describe: “the humanoid robot, receiving, from the communications network, the signals from the motion sensors, the signals from the motion sensors causing a movement of the robot that is correlated to a movement of the body suit.”

The examiner contends that Choy teaches the claimed features at page 12, lines 28-34.

The doll will be responsible for providing any information (i.e., where it's been touched, etc). This information is transmitted to the PC via an interface card and the software would act appropriately, i.e., it could select from a list of appropriate limb movements. Once chosen, it would output the data to the 'doll controller' which would move the selected limbs accordingly.

In Choy, the doll when touched transmits information to the software to let the software select from a list of limb movements that are output to the doll controller to move the limbs of the doll accordingly. However, this does not describe what claim 2 claims, namely, “the humanoid robot, receiving, from the communications network the signals from the motion sensors, the signals from the motion sensors causing a movement of the robot that is correlated to a movement of the body suit.” There is no teaching in Choy of any correlated movement of the

¹ Applicant argued: “Claim 2 is allowable at least for the reasons discussed in claim 1. Furthermore, it is noted that Choy does not describe a body suit having motion sensors.”

robot to the body suit worn by the user. Rather, in Choy, if the doll is touched the dolls provides a responsive movement. In claim 2, the robot is a surrogate for the user in the body suit. In Choy, the doll responds to touching.

Claims 13-15 are allowable for analogous reasons.

Claims 4-8, 12, 16, 17 and 21 are allowable over Choy et al. in view of Abbasi, US Patent No. 6,786,863. In addressing this rejection the examiner argues:

Applicant contends the applied references Choy in view of Abbasi do not suggest a robot comprising a body and a camera and a microphone coupled to the body. The Examiner respectfully disagrees. Applicant's argues against the references individually; one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Choy teaches a robot comprising a body and the importance of linking sound audio cards between users to allow verbal communication (page 18, lines 15-18) and Abbasi suggests the specific use of a microphone and a camera.

Claim 4 requires that: ... "the robot comprises ... a camera coupled to the body, the camera for sending video signals to the communications network; and a microphone coupled to the body, the microphone for sending audio signals to the communications network."

The combination of these references does not suggest these features. Abbasi does not disclose that the robot comprises a body and comprises a camera coupled to the body, the camera for sending video signals to the communications network and a microphone coupled to the body, the microphone for sending audio signals to the communications network. Abbasi discloses that: "Each computer interfaces to a plurality of external sensory devices including, but not limited to a video camera (35A and 35B), a microphone (40A and 40B), and a speaker (45A and 45B). These sensory devices can be used optionally, collectively or in any combination." But nowhere are they disclosed as part of a body. Neither Choy nor Abbasi suggest that the use of such "sensory devices" to communicate signals according to claim 4. Neither Choy nor Abbasi disclose any arrangement in which signals are communicated between a body suit, e.g., worn by a user and a robot.

Moreover, the combination of Choy and Abbasi is not suggested since Choy is not directed to sending signals of any sort from the robot to the user. The examiner contends that the

combination of references is suggested because "... to combine the system of Choy et al. with the teachings of Abbasi because (sic) teaches that the use of sight and sound is important for easy communication and as Choy et al. suggests the combination of touch, audio and visual stimulation is a powerful and effective means of communication (Column 1, lines 19-22).

Applicant contends that this motivation is vague and disconnected and thus, inadequate because it does not address the deficiencies in Choy, namely the absence of any suggestion in Choy to send signals of any sort from the robot to the user and the absence of the body suit features to receive the signals from the network.

Claim 5 requires a set of goggles including a display to render the video signals received from the camera and a transducer to transduce the audio signals received from the microphone.

The examiner argues in response:

Abbasi teaches explicitly the use of a camera and microphone, whereas Choy more generally describes an audio and visual component. Applicant contends the applied references do not teach the limitation of a set of goggles including rendering video signals. The Examiner respectfully disagrees. In the broadest reasonable interpretation, the headset of Choy including embedded transducers to render video and audio signals to a user received from the network meet the claimed limitations.

Applicant again disagrees. Choy mentions a Virtual Reality Headset.² However, that headset does not render the video signals received from the camera and a transducer to transduce the audio signals of base claim 1.

Claim 6

Claim 6, which recites that the system of claim 5 has the robot at a first location and the set of goggles at a second location and the system further includes a second humanoid robot in the second location, the second robot having a second microphone and a second camera; and a second set of goggles to receive the video signals from the first camera and a second earphone to receive the audio signals from the first microphone, is distinct over the combination of references. The examiner states:

Choy et al. discloses wherein the virtual encounter system is used to connect two users in different locations (page 2, lines 18-21) and wherein one user has one

² Choy page 5

avatar and a second user has a second avatar and the movements of each avatar are controlled directly by the sensed movements of the respective users (page 16, lines 7-16), wherein the users use headsets to receive visual and audio signals (page 5, line 29-page 7, line 2). Abbasi further teaches a remote physical encounter system comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone (Figure 1).

The examiner contends that Choy et al. discloses "...wherein one user has one avatar and a second user has a second avatar and the movements of each avatar are controlled directly by the sensed movements of the respective users (page 16, lines 7-16)..." Applicant contends however that this does not suggest the claimed features namely, that the humanoid robot has the sensors sending tactile signals to a body suit having tactile actuators via the communications network as in independent claim 1, or that a second humanoid robot in the second location has a second microphone and a second camera and a second set of goggles to receive the video signals from the first camera and a second earphone to receive the audio signals from the first microphone. Applicant further contends that Abbasi's "remote physical encounter system does not cure the deficiencies in the combined references.

The examiner also rejected Claims 9-11 and 18-20 under 35 U.S.C. 103(a) as being unpatentable over Choy et al. in view of Abbasi as applied to claims 5 and 16 above, and further in view of Yee et al., US Patent No. 6,016,385.

For at least the reasons discussed in their respective base claims, claims 9-11 and 18-20 are allowable over Choy et al. in view of Abbasi, and further in view of Yee et al., US Patent No. 6,016,385, since Yee et al. is not seen as curing the deficiencies of the combination of Choy and Abbasi.

This reply is accompanied by a Request for Continued Examiner and an Information Disclosure Statement as a submission.

It is believed that all the rejections and/or objections raised by the examiner have been addressed.

In view of the foregoing, applicant respectfully submits that the application is in condition for allowance and such action is respectfully requested at the examiner's earliest convenience.

All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

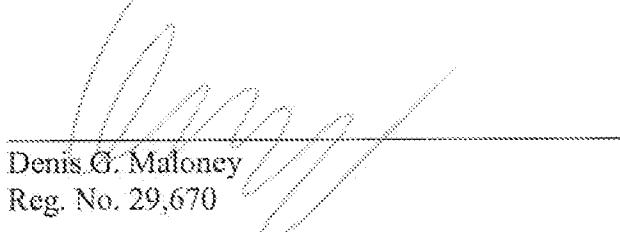
Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Please charge the \$225 fee for the Petition for Extension of Time to Deposit Account No. 06-1050. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 8/6/07

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